

GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

LOK SABHA
UNSTARRED QUESTION NO. 3099
TO BE ANSWERED ON 06.08.2021

Impact of Hydro Power Projects

3099. SHRI S. JAGATHRAKSHAKAN:

Will the Minister of ENVIRONMENT, FOREST AND CLIMATE CHANGE be pleased to state:

- (a) whether the Government is aware that hydropower projects, apart from amplifying disaster threaten environmental flows, water quality, and the health of aquatic and terrestrial ecosystems and the projects are also facing risks from climate crisis-related flow variations, extreme events, erosion and sedimentation, and glacial lake outburst floods (GLOFs)/ landslide dam outburst floods (LDOFs);
- (b) if so, the details thereof; and
- (c) the preventive steps taken/being taken by the Government keeping in this regard?

ANSWER

MINISTER OF STATE IN THE MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE
(SHRI ASHWINI KUMAR CHOUBEY)

(a) to (b) According to Geological Survey of India (GSI) both Glacial Lake Outburst Flood (GLOF) and Landslide Lake Outburst Flood (LLOF) are natural hazard events, whose impacts may pose risks to any infrastructure available in the downstream of any mountainous catchment. The GSI is engaged in scientific investigation of Glaciers and it has compiled inventories of glacier lakes in Uttarakhand, Himachal Pradesh, Jammu & Kashmir. The GSI has also prepared and published an inventory of Himalayan Glaciers in the Indian Himalaya.

(c) The hydro power projects are designed considering the reservoir gross capacity and hydraulic head following Bureau of Indian Standards (BIS) criteria which can handle the extreme events like GLOFs and LDOFs. The climate crisis related to flow variations, extreme events, erosion and sedimentation are analyzed in detail while fixing the hydrological parameters of the project, at the time of preparation DPR of Hydro Power projects/ River Valley Projects as per guidelines for preparation of Detailed Project Report of Irrigation and Multipurpose Projects of Central Water Commission (CWC) published in the year 2010. The spillway capacity of Hydro Power projects is also taken into consideration while designing such projects. Further, in case of Himalayan rivers the glacial outburst floods (GLOFs), apart from design flood, is also considered for the safety of the structure, while designing any Hydro Power projects/ River Valley Projects.

Monitoring of e-flows is being carried out by CWC along with monitoring of size of 477 glacial lakes and water bodies from June to October every year in the Himalayan Region, which have area more than 50 hectare. The Glacial Lake monitoring helps in assessment of any untoward growth in size of lakes and subsequently conducting Glacial Lake Outburst Flood (GLOF) study. The monitoring report is shared with concerned Himalayan States and other stakeholders.

The Ministry of Power (MoP) has formed a Committee on Early Weather Warning System including that related to formation/movement of glaciers/ glacial lakes to be put in place in the hilly regions particularly where Hydro Electric Projects are located.

Moreover, the Ministry of Environment, Forest and Climate Change at the time of grant of Environmental Clearance to the Hydro Power Projects consider the various activities to be undertaken under Disaster Management Plan viz Dam Break Analysis, E-Flow, Catchment Area Treatment Plan, Reservoir Rim Treatment Plan, Protection of landslide areas/ Vulnerable zone, greenbelt development, muck disposal plan, Early Warning System etc. to mitigate the impacts of such natural hazards.
